

AMENDMENTS TO THE CLAIMS

1. (currently amended) An apparatus for manipulating the temperature of a sample used in focused ion beam FIB processing, comprising:

a base member;

a thermoelectric module disposed over the base member, said thermoelectric module electrically coupled to a current source through an electrical connector disposed through a vacuum chamber wall of an FIB tool and into an interior vacuum section of the FIB tool; and

a sample mounted on a mounting surface of the thermoelectric module;

wherein said thermoelectric module is configured so as to reduce the temperature of said sample with respect to an ambient FIB tool temperature.

2. (original) The apparatus of claim 1, wherein said thermoelectric module further comprises a Peltier device.

3. (original) The apparatus of claim 2, wherein said thermoelectric module is configured to draw heat from the sample and exhaust said heat through said base member.

4. (cancelled)

5. (original) The apparatus of claim 1, further comprising a thermal ballast module mounted on said base member.

6. (original) The apparatus of claim 5, wherein said thermal ballast module is disposed adjacent to said thermoelectric module.

7. (previously presented) The apparatus of claim 5, wherein said thermoelectric module is mounted on said thermal ballast module.

8. (original) The apparatus of claim 5, wherein said thermal ballast module further comprises:

a sealed, hollow vessel constructed from a material having a high thermal conductivity; and

a plurality of internal fins configured for facilitating heat transfer from said base member to an internal ballast material, said internal ballast material including a high heat-capacity material.

9. (currently amended) The apparatus of claim 41, further comprising a plurality of cooling ports within said base member, said cooling ports for receiving a cooling medium circulated therethrough supplied by a cooling supply line.

10. (original) The apparatus of claim 9, wherein said cooling supply line is coupled to a cooling medium connector disposed through a vacuum chamber wall of an FIB tool.

11-19. (cancelled)